STATE OF NEW HAMPSHIRE
INTER-DEPARTMENT COMMUNICATION

DATE: September 30, 2019

FROM: Andrew O'Sullivan
Wetlands Program Manager

AT (OFFICE): Department of Transportation
Bureau of Environment

SUBJECT Dredge & Fill Application
North Woodstock, 42618

TO Craig Rennie, Inland Wetland Supervisor
New Hampshire Wetlands Bureau
29 Hazen Drive, P.O. Box 95
Concord, NH 03302-0095

Forwarded herewith is the application package prepared by NH DOT Bureau of Bridge Maintenance for the subject 18,356 impact project. This project is classified as Major per Env-Wt 303.02(p). The project is located on NH Route I-93 in the Town of North Woodstock, NH. The proposed work consists of rehabilitation of bridge 203/079. The bridge currently shows exposed rebar and deterioration of the concrete at the bottom of the culvert. The deteriorated concrete will be repaired.

This project was reviewed at the Natural Resource Agency Coordination Meeting on June 19, 2019. A copy of the minutes has been included with this application package. A copy of this application and plans can be accessed on the Departments website via the following link: http://www.nh.gov/dot/org/projectdevelopment/environment/units/program-management/wetland-applications.htm

Mitigation is not required.

The lead people to contact for this project are Steve Johnson, Administrator, Bureau of Bridge Maintenance (271-3668 or steve.johnson@dot.nh.gov) or Andrew O'Sullivan, Wetlands Program Manager, Bureau of Environment (271-3226 or andrew.o'sullivan@dot.nh.gov).

A payment voucher has been processed for this application (Voucher #583130) in the amount of $$3671.20.

If and when this application meets with the approval of the Bureau, please send the permit directly to Andrew O'Sullivan, Wetlands Program Manager, Bureau of Environment.

AMO:amo
Enclosures

cc:
BOE Original
Town of Woodstock (4 copies via certified mail)
David Trubey, NH Division of Historic Resources (Cultural Review Within)
Carol Henderson, NH Fish & Game (via electronic notification)
Maria Tur, US Fish & Wildlife (via electronic notification)
Mark Kern, US Environmental Protection Agency (via electronic notification)
Michael Hicks, US Army Corp of Engineers (via electronic notification)
Kevin Nyhan, BOE (via electronic notification)

NHDES-W-06-012

WETLANDS PERMIT APPLICATION

Water Division/ Wetlands Bureau
Land Resources Management

Check the status of your application: www.des.nh.gov/onestop

RSA/Rule: RSA 482-A/ Env-Wt 100-900

Administrative Use Only	Administrative Use Only	Administrative Use Only	File No.:
			Check No.:
			Amount:
			Initials:

1. REVIEW TIME: Indicate your Review Time below. To determine review time, refer to Guidance Document A for instructions.

☒ Standard Review (Minimum, Minor or Major Impact) ☐ Expedited Review (Minimum Impact only)

2. MITIGATION REQUIREMENT:

If mitigation is required a Mitigation-Pre Application meeting must occur prior to submitting this Wetlands Permit Application. To determine if Mitigation is Required, please refer to the Determine if Mitigation is Required Frequently Asked Question

Mitigation Pre-Application Meeting Date: Month: __ Day: __ Year: ____

☒ N/A - Mitigation is not required

3. PROJECT LOCATION:

Separate wetland permit applications must be submitted for each municipality that wetland impacts occur within.

ADDRESS: **I-93 over Eastman Brook** TOWN/CITY: **Woodstock**

TAX MAP: BLOCK: LOT: UNIT:

USGS TOPO MAP WATERBODY NAME: **Eastman Brook** ☒ NA STREAM WATERSHED SIZE: **23.4 sq. mi.** ☐ NA

LOCATION COORDINATES (If known): **43`58'13.16"N 71`40'30.77"W** ☒ Latitude/Longitude

4. PROJECT DESCRIPTION:

Provide a brief description of the project outlining the scope of work. Attach additional sheets as needed to provide a detailed explanation of your project. DO NOT reply "See Attached" in the space provided below.

This project will rehabilitate Woodstock bridge 203/079. This bridge currently shows exposed rebar and deterioration of the concrete at the bottom of the culvert. It is the Bureau of Bridge Maintenance's intention to repair the concrete bottom.

5. SHORELINE FRONTAGE:

☒ NA This does not have shoreline frontage. SHORELINE FRONTAGE:

Shoreline frontage is calculated by determining the average of the distances of the actual natural navigable shoreline frontage and a straight line drawn between the property lines, both of which are measured at the normal high water line.

6. RELATED NHDES LAND RESOURCES MANAGEMENT PERMIT APPLICATIONS ASSOCIATED WITH THIS PROJECT:

Please indicate if any of the following permit applications are required and, if required, the status of the application.

To determine if other Land Resources Management Permits are required, refer to the Land Resources Management Web Page.

Permit Type	Permit Required	File Number	Permit Application Status
Alteration of Terrain Permit Per RSA 485-A:17	☐ YES ☒ NO	____	☐ APPROVED ☐ PENDING ☐ DENIED
Individual Sewerage Disposal per RSA 485-A:2	☐ YES ☒ NO	____	☐ APPROVED ☐ PENDING ☐ DENIED
Subdivision Approval Per RSA 485-A	☐ YES ☒ NO	____	☐ APPROVED ☐ PENDING ☐ DENIED
Shoreland Permit Per RSA 483-B	☐ YES ☒ NO	____	☐ APPROVED ☐ PENDING ☐ DENIED

7. NATURAL HERITAGE BUREAU & DESIGNATED RIVERS:

See the Instructions & Required Attachments document for instructions to complete a & b below.

a. Natural Heritage Bureau File ID: NHB **19** - **1659** .

b. ☐ Designated River the project is in ¼ miles of: _____ ; and
date a copy of the application was sent to the Local River Management Advisory Committee: Month: __ Day: __ Year: ____
☒ N/A

8. APPLICANT INFORMATION (Desired permit holder)

LAST NAME, FIRST NAME, M.I.: **NH Dept. of Transportation**			
TRUST / COMPANY NAME: **NH Dept. of Transportation**	MAILING ADDRESS: **PO Box 483**		
TOWN/CITY: **Concord**		STATE: **NH**	ZIP CODE: **03302**
EMAIL or FAX: **Steve.Johnson@dot.nh.gov**	PHONE: **271-3667**		
ELECTRONIC COMMUNICATION: By initialing here: SWJ, I hereby authorize NHDES to communicate all matters relative to this application electronically			

9. PROPERTY OWNER INFORMATION (If different than applicant)

LAST NAME, FIRST NAME, M.I.: **NH Dept. of Transportation**			
TRUST / COMPANY NAME: **NH Dept. of Transportation**	MAILING ADDRESS: **PO Box 483**		
TOWN/CITY: **Concord**		STATE: **NH**	ZIP CODE: **03302**
EMAIL or FAX: **Andrew O'Sullivan**	PHONE: **271-3226**		
ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize NHDES to communicate all matters relative to this application electronically			

10. AUTHORIZED AGENT INFORMATION

LAST NAME, FIRST NAME, M.I.:	COMPANY NAME:		
MAILING ADDRESS:			
TOWN/CITY:		STATE:	ZIP CODE:
EMAIL or FAX:	PHONE:		
ELECTRONIC COMMUNICATION: By initialing here _____, I hereby authorize NHDES to communicate all matters relative to this application electronically			

11. PROPERTY OWNER SIGNATURE:

See the Instructions & Required Attachments document for clarification of the below statements

By signing the application, I am certifying that:

1. I authorize the applicant and/or agent indicated on this form to act in my behalf in the processing of this application, and to furnish upon request, supplemental information in support of this permit application.
2. I have reviewed and submitted information & attachments outlined in the Instructions and Required Attachment document.
3. All abutters have been identified in accordance with RSA 482-A:3, I and Env-Wt 100-900.
4. I have read and provided the required information outlined in Env-Wt 302.04 for the applicable project type.
5. I have read and understand Env-Wt 302.03 and have chosen the least impacting alternative.
6. Any structure that I am proposing to repair/replace was either previously permitted by the Wetlands Bureau or would be considered grandfathered per Env-Wt 101.47.
7. I have submitted a Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) to the NH State Historic Preservation Officer (SHPO) at the NH Division of Historical Resources to identify the presence of historical/ archeological resources while coordinating with the lead federal agency for NHPA 106 compliance.
8. I authorize NHDES and the municipal conservation commission to inspect the site of the proposed project.
9. I have reviewed the information being submitted and that to the best of my knowledge the information is true and accurate.
10. I understand that the willful submission of falsified or misrepresented information to the New Hampshire Department of Environmental Services is a criminal act, which may result in legal action.
11. I am aware that the work I am proposing may require additional state, local or federal permits which I am responsible for obtaining.
12. The mailing addresses I have provided are up to date and appropriate for receipt of NHDES correspondence. NHDES will not forward returned mail.

Property Owner Signature	Print name legibly	Date
Steve W Johnson	**Steve W Johnson**	9/27/2017

MUNICIPAL SIGNATURES

12. CONSERVATION COMMISSION SIGNATURE

The signature below certifies that the municipal conservation commission has reviewed this application, and:

1. Waives its right to intervene per RSA 482-A:11;
2. Believes that the application and submitted plans accurately represent the proposed project; and
3. Has no objection to permitting the proposed work.

⇨	Print name legibly	Date

DIRECTIONS FOR CONSERVATION COMMISSION

1. Expedited review ONLY requires that the conservation commission's signature is obtained in the space above.
2. Expedited review requires the Conservation Commission signature be obtained **prior** to the submittal of the original application to the Town/City Clerk for signature.
3. The Conservation Commission may refuse to sign. If the Conservation Commission does not sign this statement for any reason, the application is not eligible for expedited review and the application will reviewed in the standard review time frame.

13. TOWN / CITY CLERK SIGNATURE

As required by Chapter 482-A:3 (amended 2014), I hereby certify that the applicant has filed four application forms, four detailed plans, and four USGS location maps with the town/city indicated below.

⇨ Town/City Clerk Signature	Print name legibly	Town/City	Date

DIRECTIONS FOR TOWN/CITY CLERK:

Per RSA 482-A:3,I

1. For applications where "Expedited Review" is checked on page 1, if the Conservation Commission signature is not present, NHDES will accept the permit application, but it will NOT receive the expedited review time.
2. IMMEDIATELY sign the original application form and four copies in the signature space provided above;
3. Return the signed original application form and attachments to the applicant so that the applicant may submit the application form and attachments to NHDES by mail or hand delivery.
4. IMMEDIATELY distribute a copy of the application with one complete set of attachments to each of the following bodies: the municipal Conservation Commission, the local governing body (Board of Selectmen or Town/City Council), and the Planning Board; and
5. Retain one copy of the application form and one complete set of attachments and make them reasonably accessible for public review.

DIRECTIONS FOR APPLICANT:

1. Submit the single, original permit application form bearing the signature of the Town/ City Clerk, additional materials, and the application fee to NHDES by mail or hand delivery.

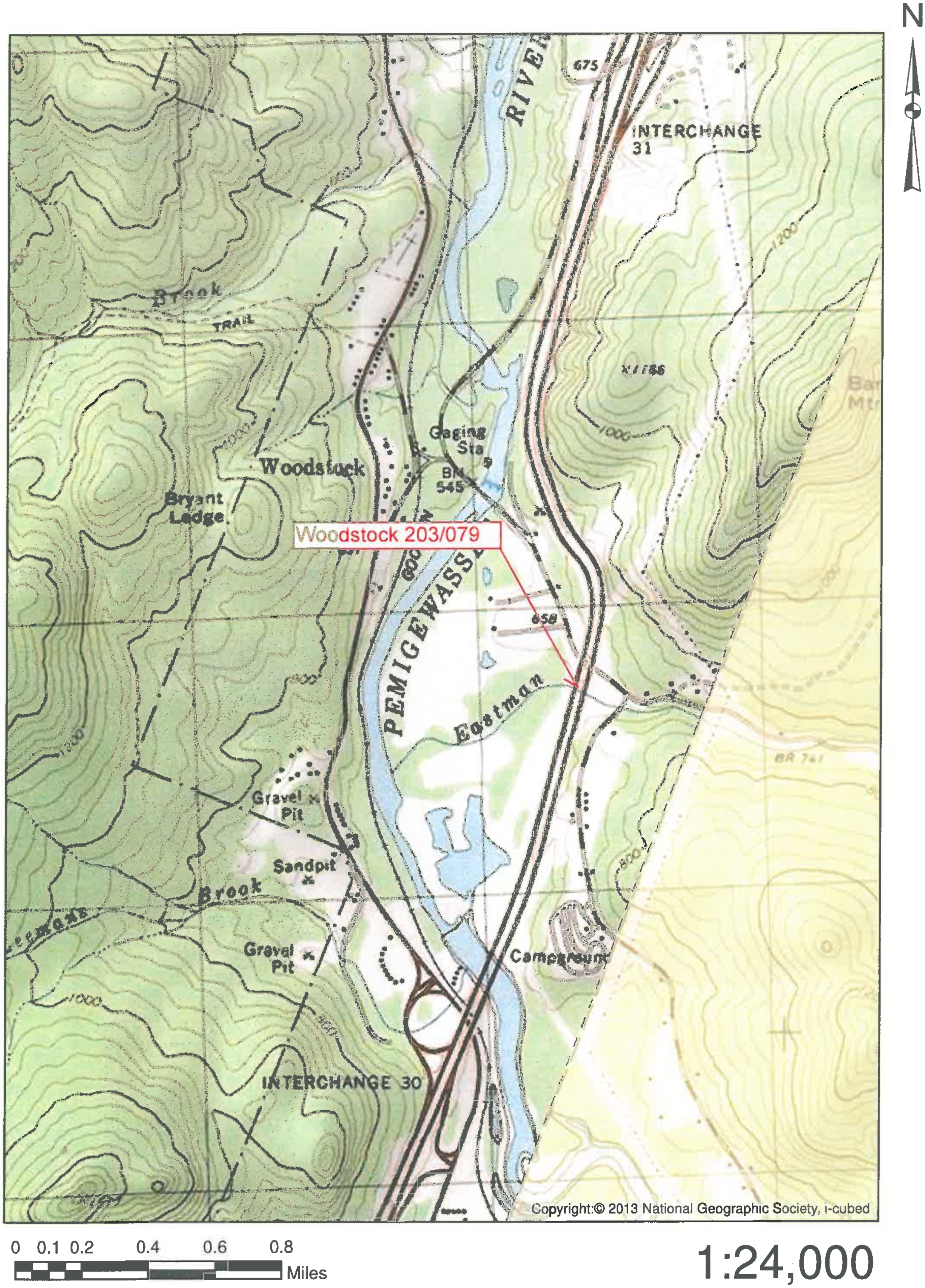
14. IMPACT AREA:
For each jurisdictional area that will be/has been impacted, provide square feet and, if applicable, linear feet of impact
Permanent: impacts that will remain after the project is complete.
Temporary: impacts not intended to remain (and will be restored to pre-construction conditions) after the project is complete.

JURISDICTIONAL AREA	PERMANENT Sq. Ft. / Lin. Ft.		TEMPORARY Sq. Ft. / Lin. Ft.	
Forested wetland		☐ ATF		☐ ATF
Scrub-shrub wetland		☐ ATF		☐ ATF
Emergent wetland		☐ ATF		☐ ATF
Wet meadow		☐ ATF		☐ ATF
Intermittent stream		☐ ATF		☐ ATF
Perennial Stream / River	/	☐ ATF	15401 / 367	☐ ATF
Lake / Pond	/	☐ ATF	/	☐ ATF
Bank - Intermittent stream	/	☐ ATF	/	☐ ATF
Bank - Perennial stream / River	/	☐ ATF	/	☐ ATF
Bank - Lake / Pond	/	☐ ATF	2955 / 263	☐ ATF
Tidal water	/	☐ ATF	/	☐ ATF
Salt marsh		☐ ATF		☐ ATF
Sand dune		☐ ATF		☐ ATF
Prime wetland		☐ ATF		☐ ATF
Prime wetland buffer		☐ ATF		☐ ATF
Undeveloped Tidal Buffer Zone (TBZ)		☐ ATF		☐ ATF
Previously-developed upland in TBZ		☐ ATF		☐ ATF
Docking - Lake / Pond		☐ ATF		☐ ATF
Docking - River		☐ ATF		☐ ATF
Docking - Tidal Water		☐ ATF		☐ ATF
TOTAL	/		18356 / 630	

15. APPLICATION FEE: See the Instructions & Required Attachments document for further instruction

☐ Minimum Impact Fee: Flat fee of $ 200
☐ Minor or Major Impact Fee: Calculate using the below table below

Permanent and Temporary (non-docking)	**18356** sq. ft.	X	$0.20 =	$ **3671.20**
Temporary (seasonal) docking structure:	sq. ft.	X	$1.00 =	$
Permanent docking structure:	sq. ft.	X	$2.00 =	$
Projects proposing shoreline structures (including docks) add $200 =				$
Total =				$
The Application Fee is the above calculated Total or $200, whichever is greater =				$ **3671.20**



RIVER
675
INTERCHANGE
31
Brook
TRAIL
1156
Gaging
Sta
Woodstock
BM
545
Bryant
Lodge
Woodstock 203/079
PEMIGEWASSET
658
Eastman
BR 741
Gravel
Pit
Sandpit
Brook
Gravel
Pit
Campground
INTERCHANGE 30
Copyright:© 2013 National Geographic Society, i-cubed
0 0.1 0.2 0.4 0.6 0.8
Miles

1:24,000

NEW HAMPSHIRE DEPARTMENT OF Environmental Services

WETLANDS PERMIT APPLICATION – ATTACHMENT A
MINOR AND MAJOR - 20 QUESTIONS

Land Resources Management
Wetlands Bureau

Check the Status of your application: www.des.nh.gov/onestop

RSA/ Rule: RSA 482-A, Env-Wt 100-900

Env-Wt 302.04 Requirements for Application Evaluation - For any major or minor project, the applicant shall demonstrate by plan and example that the following factors have been considered in the project's design in assessing the impact of the proposed project to areas and environments under the department's jurisdiction. Respond with statements demonstrating:

1. The need for the proposed impact.

The existing bridge Woodstock 203/079 was built in 1972 and shows signs of deterioration. The current condition of the box culvert shows wear at the bottom of the box culvert. The impacts for this project include access to the structure as well as the planned water diversion. It is the Bureau of Bridge Maintenance's intention to repair the detoriorated culvert.

2. That the alternative proposed by the applicant is the one with the least impact to wetlands or surface waters on site.

The alternatives considered are as follows:

Replace with a new structure in compliance with the NH Stream Crossing Guidelines: According to the Stream Crossing Guidelines, if a new structure were to be constructed at this location it would require a span of 36'-0. A structure of this size would cost approximately $1,500,000. Spending this much money on a structure that could be adequately preserved for approximately $120,000 would not be a practicable use of resources.

Repair Concrete Box Bottom: This is the preferred alternative because it is the most effective way to repair and provide the necessary structural integrity to the bottom of the box. The project as proposed has an estimated cost of $120,000. This is the most cost-effective solution and meets the stream crossing rules to the maximum extent practicable.

In the June 2019 Natural Resource Agency Coordination Meeting no concerns with opting to do this alternative were raised.

3. The type and classification of the wetlands involved.

R3UB12-Riverine upper perennial unconsolidated bottom

Bank

4. The relationship of the proposed wetlands to be impacted relative to nearby wetlands and surface waters.

Eastman Brook flows into the Pemigewassett River.

5. The rarity of the wetland, surface water, sand dunes, or tidal buffer zone area.

Eastman Brook has not been identified as a rare surface water.

6. The surface area of the wetlands that will be impacted.

15,401 sq. ft. Riverine (15,401 sq. ft. temporary)

2,955 sq. ft. Temporary (2,955 sq. ft. temporary)

7. The impact on plants, fish and wildlife including, but not limited to:
   a. Rare, special concern species;
   b. State and federally listed threatened and endangered species;
   c. Species at the extremities of their ranges;
   d. Migratory fish and wildlife;
   e. Exemplary natural communities identified by the DRED-NHB; and
   f. Vernal pools.

a) The Natural Heritage Bureau (NHB) Datacheck tool returned with no record of special concern close to the project limits.

b) The U.S. Fish and Wildlife Services (USFWS) IPaC tool identified the Northern Long-eared Bat as "Threatened" species. Within the vicinity of the project area the proposed work will not remove any trees greater than 3" diameter at breast heigh and the box has been determined to not be suitable habitat for the bats.

c) There are no species known to be at the extremeties of their ranges located in the project area.

d) Migratory fish and wildlife will not be affected by this project.

e) The Department has coordinated with DRED and the results of the NHB review revealed there was no record.

f) There were no vernal pools identified and/or delineated in the project area.

8. The impact of the proposed project on public commerce, navigation and recreation.

During construction all lanes of traffic will be maintained at all times. Eastman Brook is non-navigable water which makes it non-conducive to boaters. There are no recreational areas that have been identified in this area except for the possibility for fishing. During construction, fishing activities from the banks of the brook will need to occur outside of the construction zone. When construction is completed the project as proposed will be a benefit to the public commerce.

9. The extent to which a project interferes with the aesthetic interests of the general public. For example, where an applicant proposes the construction of a retaining wall on the bank of a lake, the applicant shall be required to indicate the type of material to be used and the effect of the construction of the wall on the view of other users of the lake.

The project will not significantly interfere with the aesthetic interests of the general public. The proposed improvements will most likely go unnoticed as the work will primarily be performed within the existing structure and is downslope of the roadway and out of view to the general public.

10. The extent to which a project interferes with or obstructs public rights of passage or access. For example, where the applicant proposes to construct a dock in a narrow channel, the applicant shall be required to document the extent to which the dock would block or interfere with the passage through this area.

The project will not interfere with or obstruct public rights of passage or access. During construction, traffic will be maintained at all times.

11. The impact upon abutting owners pursuant to RSA 482-A:11, II. For example, if an applicant is proposing to rip-rap a stream, the applicant shall be required to document the effect of such work on upstream and downstream abutting properties.

The project is expected to have a positive impact on abutting properties. The rehabilitated structure will better serve the abutting properties if they need to travel on the road.

The project will not alter the chance of flooding on the abutting properties.

12. The benefit of a project to the health, safety, and well being of the general public.

The project will provide a safer, longer lasting structure and roadway. If the structure is not rehabilitated, the bridge will eventually be load posted or closed. Keeping the roadway open benefits commerce, trade, emergency access, etc., for the general public.

13. The impact of a proposed project on quantity or quality of surface and groundwater. For example, where an applicant proposes to fill wetlands the applicant shall be required to document the impact of the proposed fill on the amount of drainage entering the site versus the amount of drainage exiting the site and the difference in the quality of water entering and exiting the site.

The surface water currently runs off the road, and over natural vegetation along the roadway embankments. Upon completion the project, surface water will drain in the same manner. All impacts to the bank are temporary and will be restored to their existing condition. This will have no adverse effects on the quality of surface and groundwater. Best Management Practices will be used to prevent any adverse effect to the water quality during construction.

14. The potential of a proposed project to cause or increase flooding, erosion, or sedimentation.

Flooding: Repairing the concrete box floor will have no effect on the ability to pass the 100 year storm event.

Erosion: Repairing the concrete invert will not have any effect on erosion.

Sedimentation: The proposed work will not increase sedimentation at the crossing.

15. The extent to which a project that is located in surface waters reflects or redirects current or wave energy which might cause damage or hazards.

Surface water will not be reflected or redirected as a result of this project. Eastman Brook does not have enough surface water for wave energy to be an issue.

16. The cumulative impact that would result if all parties owning or abutting a portion of the affected wetland **or** wetland complex were also permitted alterations to the wetland proportional to the extent of their property rights. For example, an applicant who owns only a portion of a wetland shall document the applicant's percentage of ownership of that wetland **and** the percentage of that ownership that would be impacted.

The work consists of the repair of an existing bridge structure. There are no similar structures in the vicinity owned by other parties that would require repair.

17. The impact of the proposed project on the values and functions of the total wetland or wetland complex.

The project has minimized overall impacts to the brook and surrounding wetlands and will not impact the values and functions of Eastman Brook.

18. The impact upon the value of the sites included in the latest published edition of the National Register of Natural Landmarks, or sites eligible for such publication.

The project is not located in or near Natural Landmarks listed on the national register.

19. The impact upon the value of areas named in acts of Congress or presidential proclamations as national rivers, national wilderness areas, national lakeshores, and such areas as may be established under federal, state, or municipal laws for similar and related purposes such as estuarine and marine sanctuaries.

The proposed project is not within any area named in an act of congress or presidential proclamations.

20. The degree to which a project redirects water from one watershed to another.

The project as proposed will not redirect water from one watershed to another.

Additional comments

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Woodstock, #42618

Doug Locker provided an overview of the project. The project is the rehabilitation of the bridge, Woodstock 203/079, which carries I-93 over Eastman Brook. The existing bridge is a duel box culvert spanning a total of 42 ft. The existing bridge was constructed in 1972 and has a drainage basin of 23.4 square miles. The NHB Datacheck Tool returned with no recorded species in the area. The proposed work in to the structure would include the repair of the bottom of the box culvert. The proposed water diversion included diverting the water to the opposite culvert for the work to be done in the dry. The proposed work will not increase the elevation of the box through the bridge. Tim Boodey mentioned that there would be some work going out to contract unrelated to Bridge Maintenance to address scour in the area.

Dave Price made assurance that the work would be done in the dry to chip out the concrete and the invert would not change the elevation.

Mike Hicks noted that this project made be exempt for ACOE permit.

Carol Henderson asked if there were any future projects to this crossing that they would like to see it.

This project has not been previously discussed at a Monthly Natural Resource Agency Coordination Meeting.

Littleton, #40244

Doug Locker provided an overview of the project. The existing structure is 11' diameter Metal Pipe culvert carrying I-93 over Mullikin Brook with a drainage basin of 3.1 square miles. This project was previously presented in the April meeting. The NHB Datacheck Tool returned with no recorded species in the area. The proposed project would be to install a concrete invert within the existing structure to preserve it. The planned project would be during the winter. The outlet is currently perched. A fish weir would be provided based on John Magee's previous recommendation downstream from the structure about 100' at the end of the existing pool. It was also stated that there was a downstream waterfall about 3ft in height.
Carol Henderson asked if the fish would still have passage. It was stated that with the fish weir provided should be sufficient.

This project was previously discussed at the 4/17/2019 Monthly Natural Resource Agency Coordination Meeting.

Colebrook-Columbia, #42313

Chris Fournier (HEB Engineers) and Sarah Barnum (Normandeau Associates) presented the bridge preservation of Columbia Bridge #108/167, US Route 3 over Simms Stream and Colebrook Bridge #051/098, NH Route 26 over the Mohawk River. The field survey for the project has been conducted but not yet processed, so there is not yet a calculation of the impact area. The project consists of bridge preservation at two locations.

Woodstock 42618

Mitigation Narrative

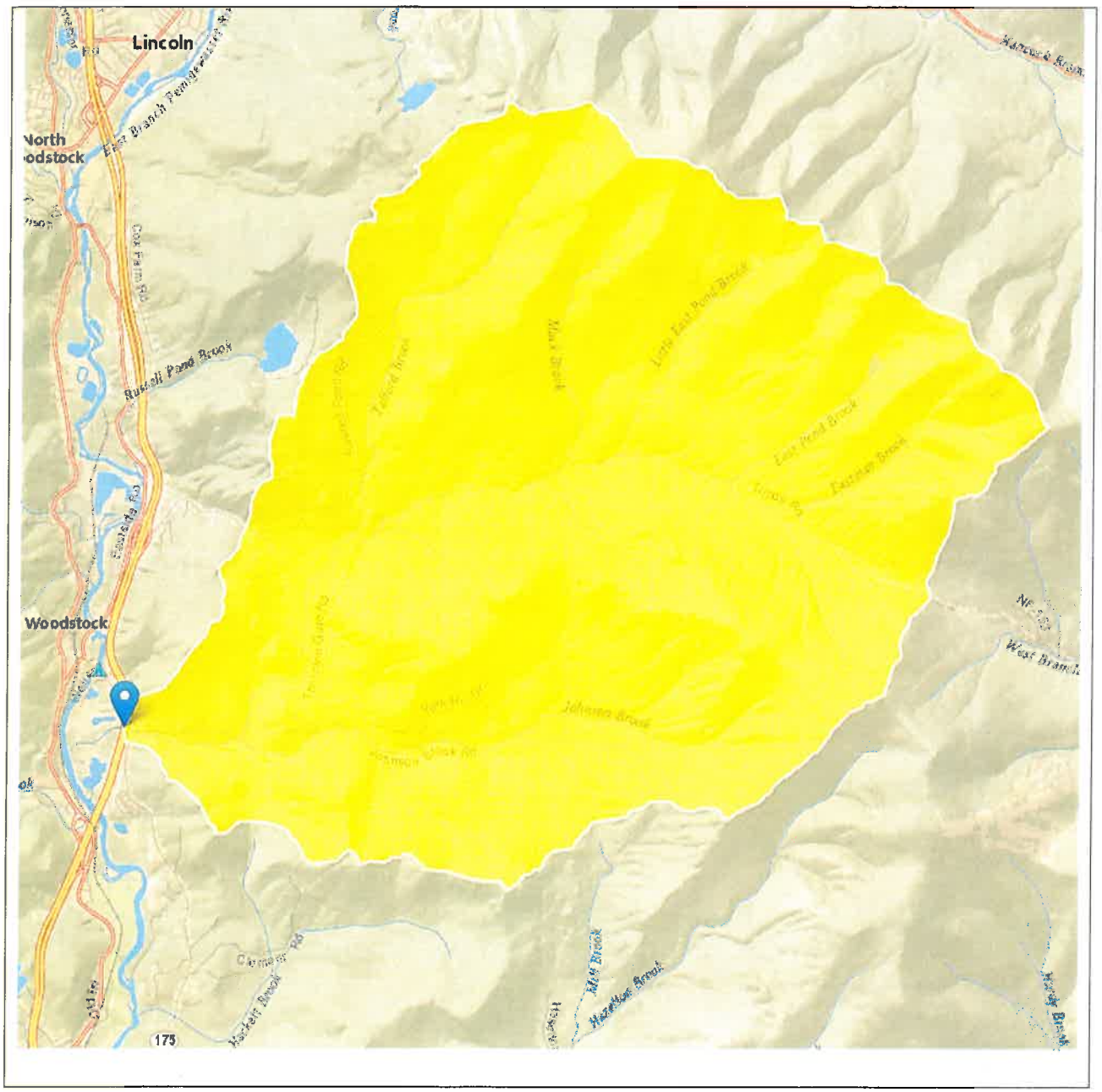
The proposed project consists of rehabilitating the Woodstock Bridge #(203/079) located on I-93 over Eastman Brook. This bridge is a duel box structure. This bridge currently shows exposed rebar and deterioration of the concrete at the bottom of the structure. To repair the structure's bottom water will be temporarily diverted from one box to the other to be able to work in the dry and then the diversion will be reversed to work on the other side. All impacts associated with this are temporary. This project was discussed at the June 19th 2019 Natural Resource Agency Meeting. Since there are no proposed permanent impacts mitigation is not being proposed with this project.

Hydraulic Data

Drainage Area – 23.41 square miles

Flow – Q 100 = 5880 cfs

The proposed structure will pass the 100 year flood.



Watershed Boundaries Map

NH Department of Transportation
Bureau of Bridge Maintenance
Project, # 42618
Env-Wt 904.09 Alternative Design
TECHNICAL REPORT

Env-Wt 904.09(a) - If the applicant believes that installing the structure specified in the applicable rule is not practicable, the applicant may propose an alternative design in accordance with this section.

Please explain why the structure specified in the applicable rule is not practicable (Env-Wt 101.69 defines practicable as *available and capable of being done after taking into consideration costs, existing technology, and logistics in light of overall project purposes.)*

Eastman Brook has a drainage area of 23.41 square miles which qualifies this stream as a tier 3 crossing. The required span for a compliant crossing in accordance with the NH Stream Crossing Guidelines would be 36' which would cost approximately $1,500,000. Spending this much money on a structure that could be adequately preserved for approximately $120,000 would not be a practicable use of resources.

The proposed alternative meets the specific design criteria for Tier 2 and Tier 3 crossings to the *maximum extent practicable*, as specified below.

Env-Wt 904.05 Design Criteria for Tier 2 and Tier 3 Stream Crossings – New Tier 2 stream crossings, replacement Tier 2 crossings that do not meet the requirements of Env-Wt 904.07, and new and replacement Tier 3 crossings shall be designed and constructed:

(a) In accordance with the NH Stream Crossing Guidelines.

The proposed improvements have been developed in accordance with the NH Stream Crossing Guidelines. The Department has considered numerous design alternatives based on general considerations that take the geomorphic conditions of the stream into account as it relates to the structure. The Department has collected data in the field and in the office to aid in the design of the proposed crossing. Using information that was available the Department has determined that a full bridge replacement would not be practicable. As such, the Department has proposed an alternative design that meets the intent of the stream crossing guidelines to the maximum extent practicable.

(b) With bed forms and streambed characteristics necessary to cause water depths and velocities within the crossing structure at a variety of flows to be comparable to those found in the natural channel upstream and downstream of the stream crossing.

The proposed project will not significantly change the existing waterway opening and structure alignment, and therefore, it will not change the depths or velocities at the crossing. The existing structure is a closed bottom concrete box. The repaired structure will remain a closed bottom structure. The proposed alternative, although not an upgrade, does diminish the existing conditions at the crossing.

(c) To provide a vegetated bank on both sides of the watercourse to allow for wildlife passage.

(c) To provide a vegetated bank on both sides of the watercourse to allow for wildlife passage.

The existing structure does not have banks through the pipe, nor will it after the repair. The banks abutting both sides of Eastman Brook are currently vegetated. Although there are temporary impacts in those areas the vegetation and existing condition are not expected to be changed permanently. Wildlife can pass through the crossing; however, it will be in a wet/aquatic environment.

(d) To preserve the natural alignment and gradient of the stream channel, so as to accommodate natural flow regimes and the functioning of the natural floodplain.

The proposed project will not significantly change the existing waterway opening nor the structure alignment, and therefore the current alignment and gradient of the stream channel will not change as a result of this project.

(e) To accommodate the 100-year frequency flood, to ensure that (1) there is no increase in flood stages on abutting properties; and (2) flow and sediment transport characteristics will not be affected in a manner which could adversely affect channel stability.

This project will make no changes at all to the existing hydraulic design. Abutting property owners will not see an increase in flooding since the structure will not compromise the channel's stability. The proposed design will continue to accommodate sediment through the crossing.

(f) To simulate a natural stream channel.

The existing culvert has a concrete bottom, and the repair will maintain that bottom. Simulating a natural stream channel is not feasible with this type of maintenance activity and type of bridge.

(g) So as not to alter sediment transport competence.

The proposed crossing will not impact the crossing's ability to transport sediment. Flow rates and transport competency will remain the same as the existing conditions.

Env-Wt 904.09(c)(3) – The alternative design must meet the general design criteria specified in Env-Wt 904.01:

Env-Wt 904.01
(a) Not be a barrier to sediment transport;

There will be no barriers to sediment transport as a result of the structure modification/repair. The crossing currently transports sediment and the proposed repairs will not alter the crossing's ability to continue this function. The crossing will maintain the existing opening and therefore is anticipated to continue to pass everything it is currently passing.

(b) Prevent the restriction of high flows and maintain existing low flows;

The proposed crossing will maintain the existing waterway opening. High flows and low flows will not be changed as a result of this project.

(c) Not obstruct or otherwise substantially disrupt the movement of aquatic life indigenous to the waterbody beyond the actual duration of construction;

Aquatic life indigenous to the water body will not be obstructed or otherwise disrupted as a result of this project. The stream will maintain its ability to successfully provide adequate aquatic organism and fish passage. During low flows small mammal species are expected to be able to utilize the crossing as a means of crossing the road as well.

(d) Not cause an increase in the frequency of flooding or overtopping of banks;

The existing crossing has no history of flooding or overtopping the banks of the stream. The proposed project will not increase the frequency of flooding or overtopping of banks. The project will maintain the existing waterway opening. The crossing will accommodate 100yr flood events.

(e) Preserve watercourse connectivity where it currently exists;

The watercourse is currently connected. Nothing in the proposed work will alter connectivity.

(f) Restore watercourse connectivity where: (1) Connectivity previously was disrupted as a result of human activity(ies); and (2) Restoration of connectivity will benefit aquatic life upstream or downstream of the crossing, or both;

The watercourse is currently perched. This project will only provide routine maintenance to the existing structure and has no plans to address hydraulic connectivity.

(g) Not cause erosion, aggradation, or scouring upstream or downstream of the crossing; and

The intent of the proposed project will not cause erosion, aggradation or scouring upstream or downstream of the crossing. Appropriate BMP's will be in place to ensure that the construction site is stable at all times.

(h) Not cause water quality degradation.

The proposed project will not cause water quality degradation.

*****Note: An alternative design for Tier 1 stream crossings must meet the general design criteria (Env-Wt 904.01) only to the *maximum extent practicable*.**

New Hampshire Natural Heritage Bureau

To: Douglas Locker
7 Hazen Drive
Concord, NH 03302

Date: 5/30/2019

From: NH Natural Heritage Bureau

Re: Review by NH Natural Heritage Bureau of request dated 5/30/2019

NHB File ID: NHB19-1659 Applicant: Steve Johnson

Location: Tax Map(s)/Lot(s):
Woodstock

Project Description: This project is the repair of the bridge carrying 1-93 over Eastman Brook. The existing concrete bottom will be repaired.

The NH Natural Heritage database has been checked for records of rare species and exemplary natural communities near the area mapped below. The species considered include those listed as Threatened or Endangered by either the state of New Hampshire or the federal government. We currently have no recorded occurrences for sensitive species near this project area.

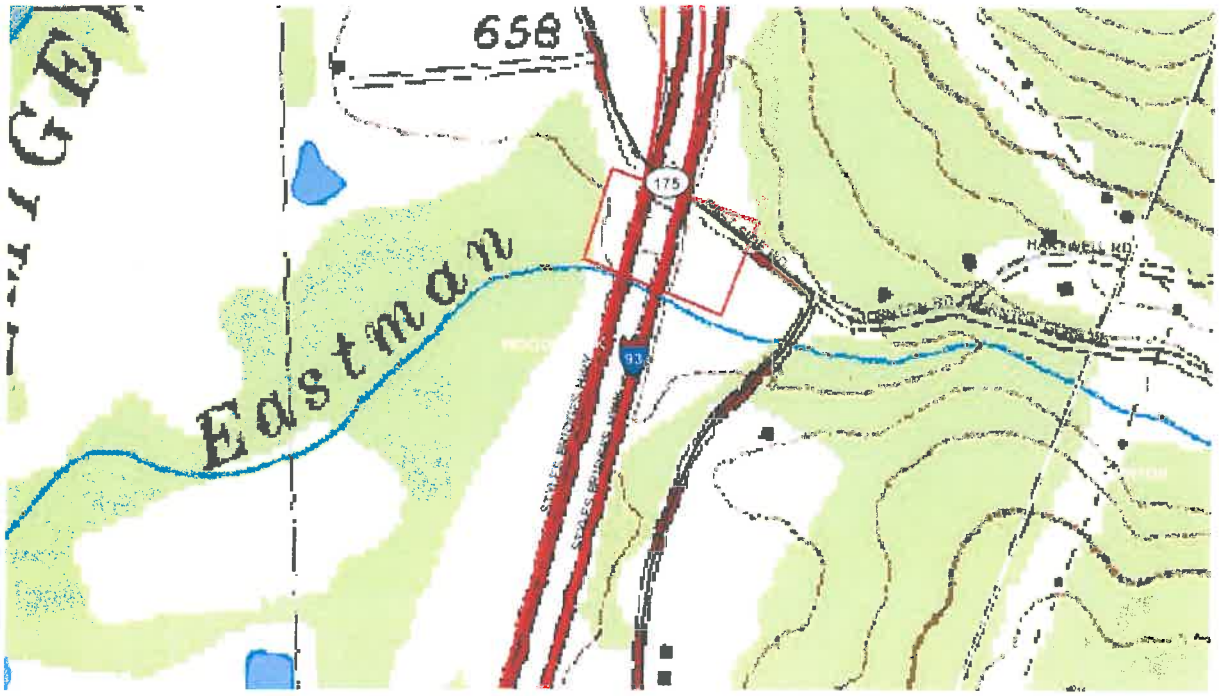
A negative result (no record in our database) does not mean that a sensitive species is not present. Our data can only tell you of known occurrences, based on information gathered by qualified biologists and reported to our office. However, many areas have never been surveyed, or have only been surveyed for certain species. An on-site survey would provide better information on what species and communities are indeed present.

This report is valid through 5/29/2020.

Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
172 Pembroke Road
Concord NH 03301

MAP OF PROJECT BOUNDARIES FOR NHB FILE ID: NHB19-1659



Department of Resources and Economic Development
Division of Forests and Lands
(603) 271-2214 fax: 271-6488

DRED/NHB
172 Pembroke Road
Concord NH 03301

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

In Reply Refer To:
Consultation Code: 05E1NE00-2019-SLI-2076
Event Code: 05E1NE00-2019-E-05243
Project Name: Woodstock 203/079

June 26, 2019

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
(603) 223-2541

Project Summary

Consultation Code: 05E1NE00-2019-SLI-2076

Event Code: 05E1NE00-2019-E-05243

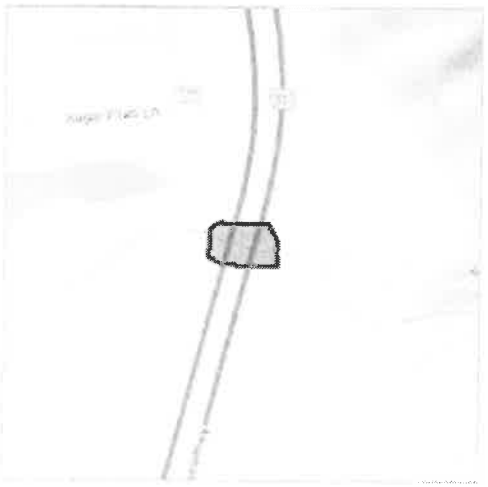
Project Name: Woodstock 203/079

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: Repair of concrete floor to duel concrete box bridge.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/43.96942249300194N71.67522451154326W



Counties: Grafton, NH

Endangered Species Act Species

There is a total of 1 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Northern Long-eared Bat *Myotis septentrionalis* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9045	Threatened

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

United States Department of the Interior

FISH AND WILDLIFE SERVICE
New England Ecological Services Field Office
70 Commercial Street, Suite 300
Concord, NH 03301-5094
Phone: (603) 223-2541 Fax: (603) 223-0104
http://www.fws.gov/newengland

IPaC Record Locator: 918-18469691

September 27, 2019

Subject: Consistency letter for the 'Woodstock 203/079' project indicating that any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Dear Matt Uraban:

The U.S. Fish and Wildlife Service (Service) received on September 27, 2019 your effects determination for the 'Woodstock 203/079' (the Action) using the northern long-eared bat (*Myotis septentrionalis*) key within the Information for Planning and Consultation (IPaC) system. You indicated that no Federal agencies are involved in funding or authorizing this Action. This IPaC key assists users in determining whether a non-Federal action may cause "take"[1] of the northern long-eared bat that is prohibited under the Endangered Species Act of 1973 (ESA) (87 Stat.884, as amended; 16 U.S.C. 1531 et seq.).

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o). Unless the Service advises you within 30 days of the date of this letter that your IPaC-assisted determination was incorrect, this letter verifies that the Action is not likely to result in unauthorized take of the northern long-eared bat.

Please report to our office any changes to the information about the Action that you entered into IPaC, the results of any bat surveys conducted in the Action area, and any dead, injured, or sick northern long-eared bats that are found during Action implementation.

If your Action proceeds as described and no additional information about the Action's effects on species protected under the ESA becomes available, no further coordination with the Service is required with respect to the northern long-eared bat.

---

[1]Take means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct [ESA Section 3(19)].

Action Description
You provided to IPaC the following name and description for the subject Action.

1. Name

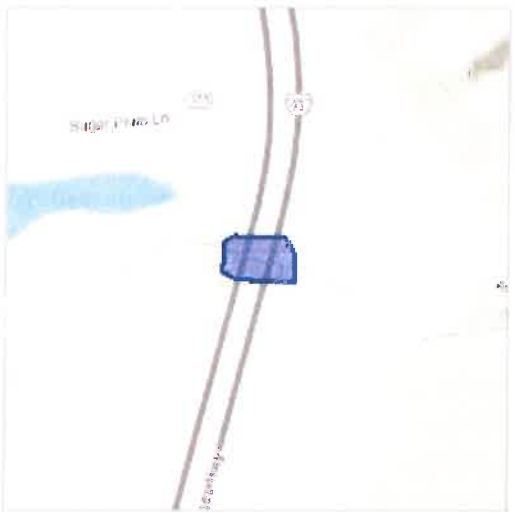
Woodstock 203/079

2. Description

The following description was provided for the project 'Woodstock 203/079':

> Repair of concrete floor to duel concrete box bridge.

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/43.96942249300194N71.67522451154326W



Determination Key Result

This non-Federal Action may affect the northern long-eared bat; however, any take of this species that may occur incidental to this Action is not prohibited under the final 4(d) rule at 50 CFR §17.40(o).

Determination Key Description: Northern Long-eared Bat 4(d) Rule
This key was last updated in IPaC on **May 15, 2017**. Keys are subject to periodic revision.

This key is intended for actions that may affect the threatened northern long-eared bat.

The purpose of the key for non-Federal actions is to assist determinations as to whether proposed actions are excepted from take prohibitions under the northern long-eared bat 4(d) rule.

If a non-Federal action may cause prohibited take of northern long-eared bats or other ESA-listed animal species, we recommend that you coordinate with the Service.

Determination Key Result

Based upon your IPaC submission, any take of the northern long-eared bat that may occur as a result of the Action is not prohibited under the ESA Section 4(d) rule adopted for this species at 50 CFR §17.40(o).

Qualification Interview

1. Is the action authorized, funded, or being carried out by a Federal agency?

   No

2. Will your activity purposefully **Take** northern long-eared bats?

   No

3. Is the project action area located wholly outside the White-nose Syndrome Zone?

   Automatically answered

   No

4. Have you contacted the appropriate agency to determine if your project is near a known hibernaculum or maternity roost tree?

   Location information for northern long-eared bat hibernacula is generally kept in state Natural Heritage Inventory databases – the availability of this data varies state-by-state. Many states provide online access to their data, either directly by providing maps or by providing the opportunity to make a data request. In some cases, to protect those resources, access to the information may be limited. A web page with links to state Natural Heritage Inventory databases is available at www.fws.gov/midwest/endangered/mammals/nleb/nhisites.html.

   Yes

5. Will the action affect a cave or mine where northern long-eared bats are known to hibernate (i.e., hibernaculum) or could it alter the entrance or the environment (physical or other alteration) of a hibernaculum?

   No

6. Will the action involve Tree Removal?

   No

Project Questionnaire

If the project includes forest conversion, report the appropriate acreages below. Otherwise, type '0' in questions 1-3.

1. Estimated total acres of forest conversion:

0

2. If known, estimated acres of forest conversion from April 1 to October 31

0

3. If known, estimated acres of forest conversion from June 1 to July 31

0

If the project includes timber harvest, report the appropriate acreages below. Otherwise, type '0' in questions 4-6.

4. Estimated total acres of timber harvest

0

5. If known, estimated acres of timber harvest from April 1 to October 31

0

6. If known, estimated acres of timber harvest from June 1 to July 31

0

If the project includes prescribed fire, report the appropriate acreages below. Otherwise, type '0' in questions 7-9.

7. Estimated total acres of prescribed fire

0

8. If known, estimated acres of prescribed fire from April 1 to October 31

0

9. If known, estimated acres of prescribed fire from June 1 to July 31

0

If the project includes new wind turbines, report the megawatts of wind capacity below. Otherwise, type '0' in question 10.

10. What is the estimated wind capacity (in megawatts) of the new turbine(s)?

0

Section 106 Programmatic Agreement – Cultural Resources Review Effect Finding

Appendix A Certification – Activities with No Potential to Cause Effects

Date Reviewed:	9/27/2019	**Approved by:**	Sheila Charles
(Desktop or Field Review Date)			NHDOT Cultural Resources Staff
Project Name:	Woodstock	**Approval date:**	9/27/2019
State Number:	42618	**FHWA Number:**	Click here to enter text.
Environmental Contact:	Matt Urban	**DOT**	
Email Address:	Matt.Urban@dot.nh.gov	**Project Manager:**	Steve Johnson

Project Description: I-93 over Eastman Brook (203/079) Repair 1972 concrete box floor. This finding of no concerns is based on: the work lies within the built interstate highway system, which is exempt from Section 106 review, the proposed actions comply with the undertakings of the Section 106 Programmatic Agreement, Appendix A Certification for Projects with No Potential to Cause Effects, and as impacts are confined to already disturbed areas and the project does not propose any new areas of excavation, there are no archaeological concerns. In addition, the bridge meets the Program Comment for Common Post-1945 Concrete & Steel Bridges.

☒ **State Funds Only** This Project uses only State funding; however activities checked below comply with the PA.

Please select any combination of the following activities:

☐	Areas where the work is an in-kind replacement of modern facilities including driveway reconstruction, and re-installation of utilities.
☐	Equipment and supply purchase and maintenance (vehicles, computers, brochures, etc.).
☐	Pavement marking/striping.
☐	Crack sealing.
☐	Pavement grinding, rehabilitation and resurfacing, provided there are no impacts below the roadway select materials.
☐	Shoulder leveling and reconstruction, provided leveling material does not extend beyond 24" from the existing edge of pavement.
☐	Installation of speed bumps, and speed tables.
☐	Signal timing/program upgrades, with no ground disturbance.
☐	Sign replacement when they are replaced in the same area.
☐	Upgrades to lighting technology (i.e. fluorescent bulbs to LED bulbs).
☐	Application of herbicide.
☐	Planting of wildflowers.
☐	Mowing and brush removal (does not include tree removal).
☒	Bridge maintenance and repair on bridges less than 50 years old.
☐	Bridge painting (provided that the bridge is less than 50 years old, and the paint color is not changing).
☐	Bridge washing and sealing when conducted in accordance with NHDOT EHS Procedure – 01 (Appendix D).
☐	Routine roadway maintenance, including culvert and catch basin clean out, and as street sweeping.
☐	Maintenance of sound walls.
☐	Improvements to existing maintenance facilities, rest areas, weigh stations and park-and-rides less than 50 years old, provided there is no expansion of the facility and no additional lighting.
☐	Installation of new or replacement guardrail, and/or median barriers within the New Hampshire interstate system

	(excluding the Franconia Notch State Parkway).
☐	Installation of new roadway signs, within the New Hampshire interstate system (excluding the Franconia Notch State Parkway).
☐	Grading to re-establish slopes, seeding and the removal of accumulated sediment from ditches and other drainage features.
☐	Routine maintenance of stormwater treatment features and related infrastructure

Coordination of the Section 106 process should begin as early as possible in the planning phase of the project (undertaking) so as not to cause a delay.

Project sponsors should not predetermine a Section 106 finding under the assumption that a project is limited to the activities listed in Appendix A until this form is signed by the NHDOT Bureau of Environment Cultural Resources Program staff.

Every project shall be coordinated with, and reviewed by the NHDOT Bureau of Environment Cultural Resources Program in accordance with the *Programmatic Agreement Among the Federal Highway Administration, the New Hampshire State Historic Preservation Office, the Advisory Council on Historic Preservation, and the New Hampshire Department of Transportation Regarding the Federal Aid Highway Program in New Hampshire*.

All projects shall occur within the existing right-of-way. Easements needed for work shall either be temporary or for the purpose of perpetuating existing conditions, such as access or drainage. If any portion of the undertaking is not entirely limited to any one or a combination of the types specified in Appendix A, please continue discussions with NHDOT Cultural Resources staff.

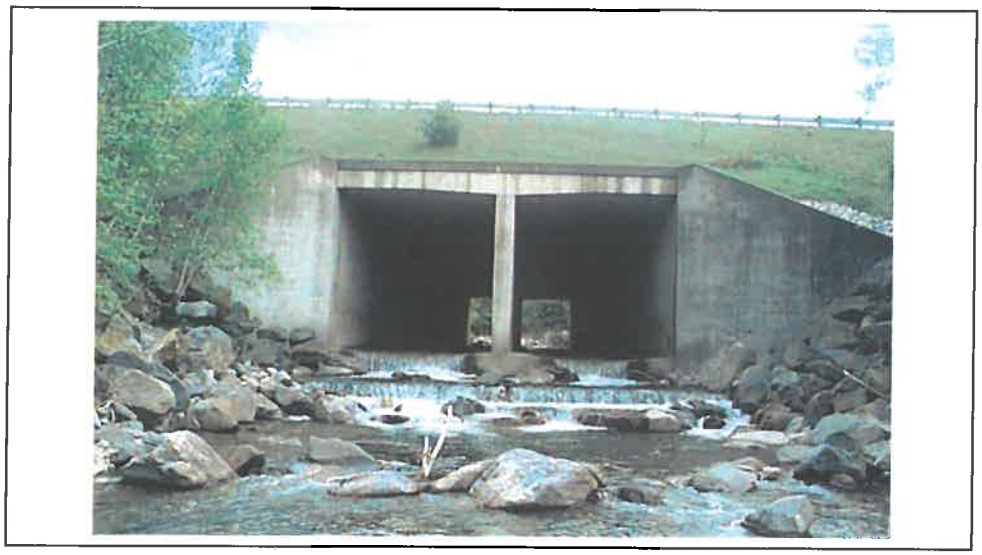
NHDOT and the State Historic Preservation Office may use provisions of the Programmatic Agreement to address the applicable requirements of NH RSA 227-C:9 in the location, identification, evaluation and management of historic resources, for projects funded by State funds.

Should project plans change, please inform the NHDOT Cultural Resources Program staff in accordance with Stipulation VII.E of the Programmatic Agreement.

This No Potential to Cause Effects project determination is your Section 106 finding, as defined in the Programmatic Agreement. No further coordination is necessary.

New Hampshire Recordation of Bridges that Apply to the Program Comment for Common Post-1945 Concrete & Steel Bridges

Project Name:	Woodstock		
State Number:	42618	**FHWA Number:**	none
Form Completed by: Email if not NHDOT staff:	Sheila Charles Sheila.Charles@dot.nh.gov	**Date:**	9/27/2019



Town	Woodstock	**NHDOT Bridge No.**	203/079
Year Built (rebuilt)	1972	**Owner**	
Road carrying	I-93	**Over feature**	Eastman Brook
Bridge/culvert Type	Concrete Box	**Number of Spans**	2
Length	42'	**Width**	36'
Abutment style	Reinforced Concrete	**Pier style**	
Rail Type	W-Beam Highway Rail	**Rail installation date:**	1972
Designer/Engineer (if known)	Unknown	**Bridge Plaques or Engravings?**	None
Reviewed by:	Sheila Charles NHDOT Cultural Resources Staff	**Date Reviewed:**	9/27/2019

Approved ☒ Not Approved ☐ Justification:

RPR Number:_____ Reviewed under PA: 9/27/2019

Created March 27, 2014 Updated September 15, 2014

Please refer to the *NHDOT Guidance on Using the Program Comment for Common Post-1945 Concrete and Steel Bridges*, located on the NHDOT Bureau of Environment Website, for information on using this form: http://www.nh.gov/dot/org/projectdevelopment/environment/units/program-management/cultural.htm

Information on specific bridges can be found on the NHDOT Bureau of Bridge Design **Bridge Summary** Spreadsheet: http://www.nh.gov/dot/org/projectdevelopment/bridgedesign/documents.htm.

(Additional photographs may be attached here if needed).

US Army Corps of Engineers ®
New England District

New Hampshire General Permits (GPs)
Appendix B - Corps Secondary Impacts Checklist
(for inland wetland/waterway fill projects in New Hampshire)

1. Attach any explanations to this checklist. Lack of information could delay a Corps permit determination.
2. All references to "work" include all work associated with the project construction and operation. Work includes filling, clearing, flooding, draining, excavation, dozing, stumping, etc.
3. See GC 5, regarding single and complete projects.
4. Contact the Corps at (978) 318-8832 with any questions.

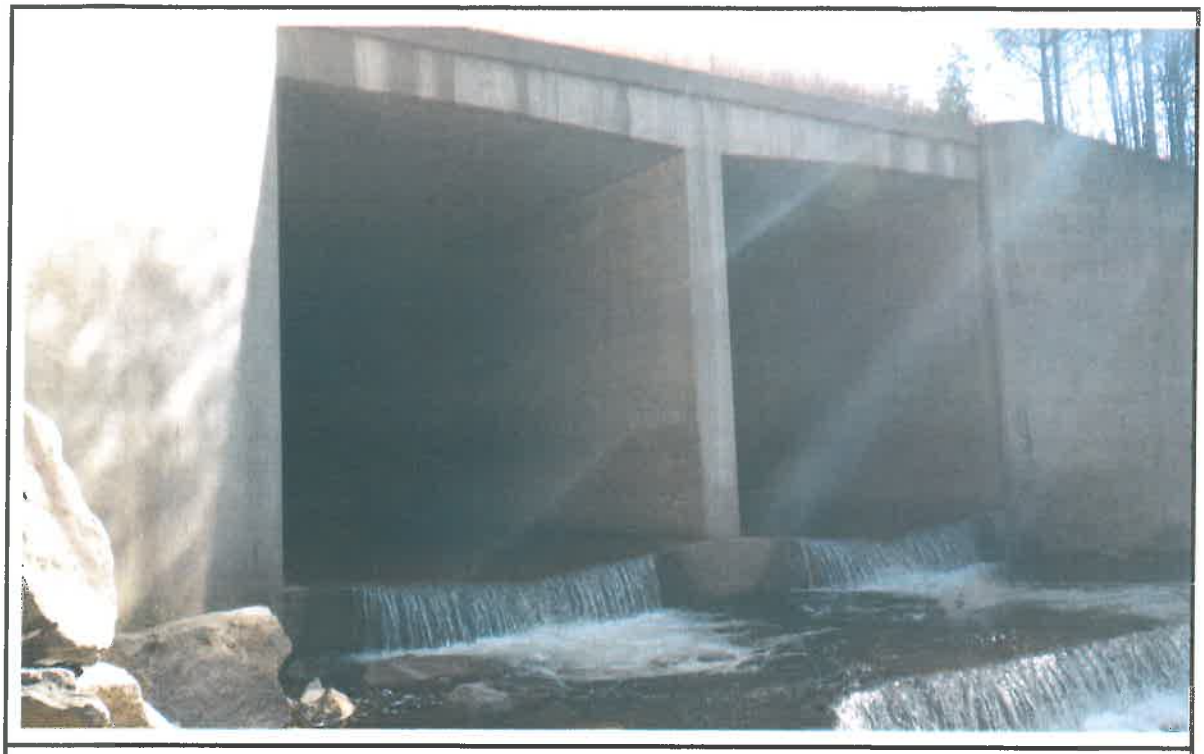
1. Impaired Waters	Yes	No
1.1 Will any work occur within 1 mile upstream in the watershed of an impaired water? See http://des.nh.gov/organization/divisions/water/wmb/section401/impaired_waters.htm to determine if there is an impaired water in the vicinity of your work area.*		X
2. Wetlands	Yes	No
2.1 Are there are streams, brooks, rivers, ponds, or lakes within 200 feet of any proposed work?	X	
2.2 Are there proposed impacts to SAS, special wetlands. Applicants may obtain information from the NH Department of Resources and Economic Development Natural Heritage Bureau (NHB) DataCheck Tool for information about resources located on the property at https://www2.des.state.nh.us/nhb_datacheck/. The book Natural Community Systems of New Hampshire also contains specific information about the natural communities found in NH.		X
2.3 If wetland crossings are proposed, are they adequately designed to maintain hydrology, sediment transport & wildlife passage?	X	
2.4 Would the project remove part or all of a riparian buffer? (Riparian buffers are lands adjacent to streams where vegetation is strongly influenced by the presence of water. They are often thin lines of vegetation containing native grasses, flowers, shrubs and/or trees that line the stream banks. They are also called vegetated buffer zones.)		X
2.5 The overall project site is more than 40 acres?		X
2.6 What is the area of the previously filled wetlands?	N/A	
2.7 What is the area of the proposed fill in wetlands?	N/A	
2.8 What is the % of previously and proposed fill in wetlands to the overall project site?	0%	
3. Wildlife	Yes	No
3.1 Has the NHB & USFWS determined that there are known occurrences of rare species, exemplary natural communities, Federal and State threatened and endangered species and habitat, in the vicinity of the proposed project? (All projects require an NHB ID number & a USFWS IPAC determination.) NHB DataCheck Tool: https://www2.des.state.nh.us/nhb_datacheck/ USFWS IPAC website: https://ecos.fws.gov/ipac/location/index		X

3.2 Would work occur in any area identified as either "Highest Ranked Habitat in N.H." or "Highest Ranked Habitat in Ecological Region"? (These areas are colored magenta and green, respectively, on NH Fish and Game's map, "2010 Highest Ranked Wildlife Habitat by Ecological Condition.") Map information can be found at: • PDF: www.wildlife.state.nh.us/Wildlife/Wildlife_Plan/highest_ranking_habitat.htm. • Data Mapper: www.granit.unh.edu. • GIS: www.granit.unh.edu/data/downloadfreedata/category/databycategory.html.		X
3.3 Would the project impact more than 20 acres of an undeveloped land block (upland, wetland/waterway) on the entire project site and/or on an adjoining property(s)?		X
3.4 Does the project propose more than a 10-lot residential subdivision, or a commercial or industrial development?		X
3.5 Are stream crossings designed in accordance with the GC 21?	X	
4. Flooding/Floodplain Values	Yes	No
4.1 Is the proposed project within the 100-year floodplain of an adjacent river or stream?		X
4.2 If 4.1 is yes, will compensatory flood storage be provided if the project results in a loss of flood storage?		N/A
5. Historic/Archaeological Resources		
For a minimum, minor or major impact project - a copy of the Request for Project Review (RPR) Form (www.nh.gov/nhdhr/review) with your DES file number shall be sent to the NH Division of Historical Resources as required on Page 11 GC 8(d) of the GP document**		N/A

*Although this checklist utilizes state information, its submittal to the Corps is a Federal requirement.
** If your project is not within Federal jurisdiction, coordination with NH DHR is not required under Federal law.

Looking Downstream at the Structure

Upstream Channel



Downstream Outlet

Downstream Outlet

Downstream Channel

CONSTRUCTION SEQUENCE

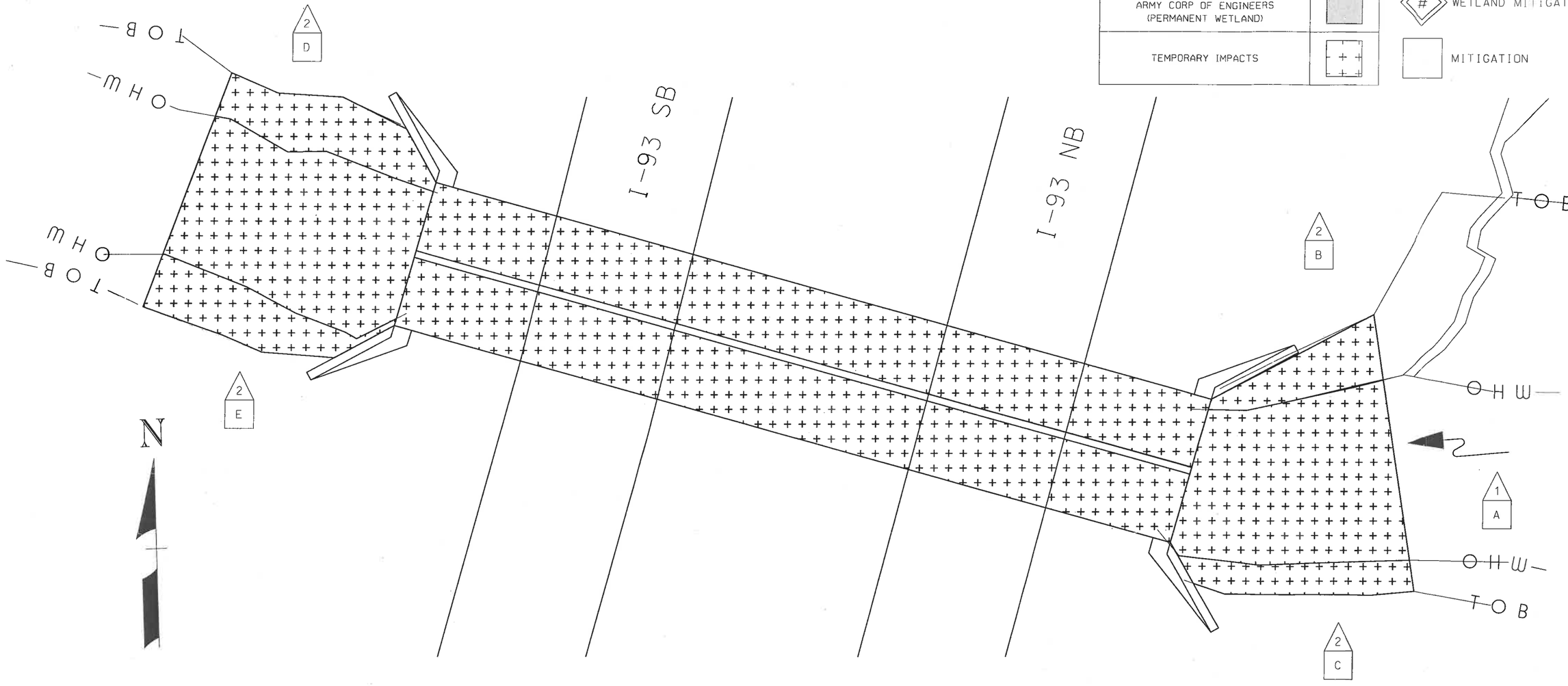
1. At normal to low flow, a sandbags will be placed to divert flow to one side of the box culvert.
2. The work zone will be dewatered or contained.
3. The existing concrete bottom will be chipped out and replaced.
4. All dewatering devices will be removed and the site will be restored to its original quality and this process will be repeated for the opposite side.

Note: The Project will utilize BMP's from the Best Management Practices manual during all phases of construction.

LEGEND

TYPE OF WETLAND IMPACT	SHADING/ HATCHING
NEW HAMPSHIRE WETLANDS BUREAU (PERMANENT NON-WETLAND)	
NEW HAMPSHIRE WETLANDS BUREAU & ARMY CORP OF ENGINEERS (PERMANENT WETLAND)	
TEMPORARY IMPACTS	

- # — WETLAND DESIGNATION NUMBER
- # — WETLAND IMPACT LOCATION
- # — WETLAND MITIGATION AREA
- MITIGATION



30 0 30 60

SCALE IN FEET

WETLAND IMPACTS

SCALE: 1" = 30'-0"

WETLANDS DELINEATED BY XXX ON XXXX

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE MAINTENANCE

TOWN WOODSTOCK BRIDGE NO. 203/079 STATE PROJECT 42618

LOCATION I-93 OVER EASTMAN BROOK

WETLAND IMPACTS

BRIDGE SHEET 1 OF 3

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
	DESIGNED			CHECKED	
	DRAWN	JEH	5/29/19	CHECKED	
	QUANTITIES			CHECKED	

FILE NUMBER WOODSTOCK 203/079

SHEET SCALE	ISSUE DATE	FISCAL YEAR	CREW	SHEET NO.	TOTAL SHEETS
AS NOTED	REV. DATE	2019	10	1	3

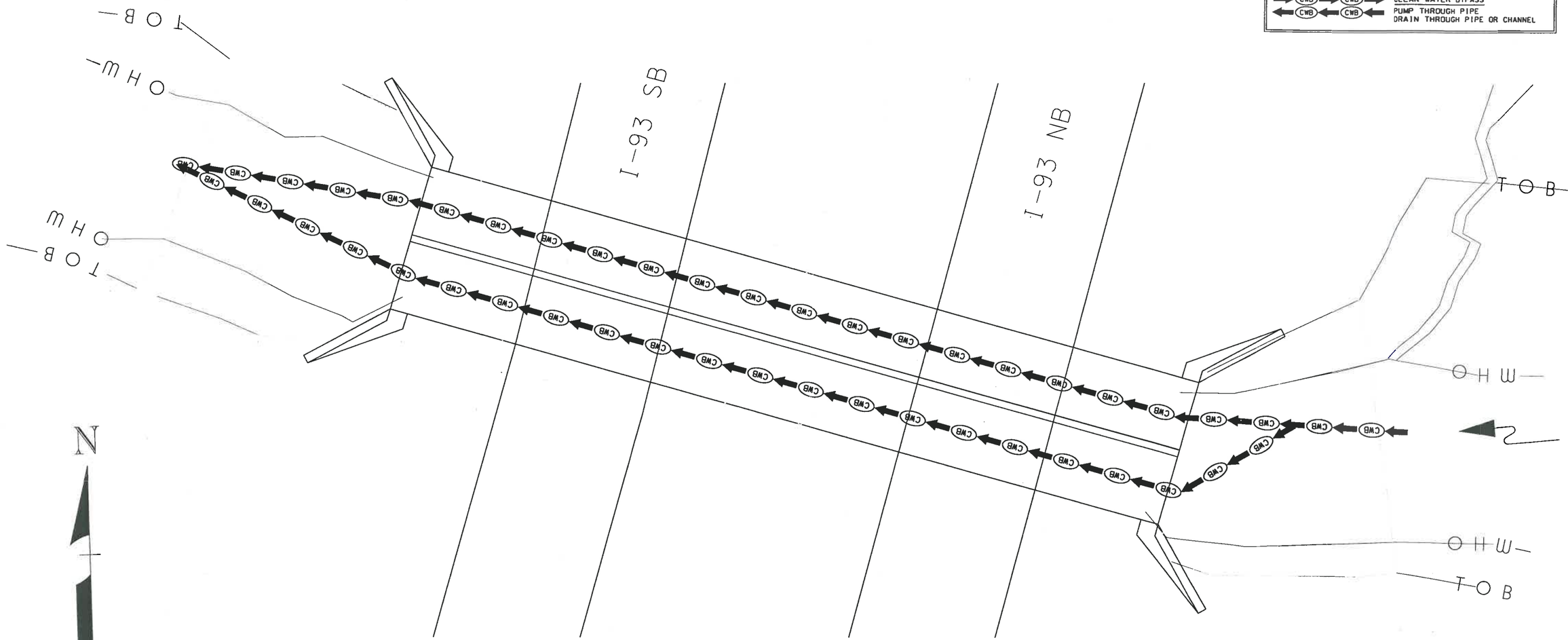
EROSION CONTROL PLAN LEGEND

PERIMETER CONTROL (PC)
- SILT FENCE
- EROSION CONTROL MIX BERM
- EROSION CONTROL MIX SOX
- TURBIDITY CURTAIN
- SHEET PILE
- COFFER DAM

NATURAL BUFFER/PERIMETER CONTROL (NB/PC)
- SILT FENCE
- EROSION CONTROL MIX BERM
- EROSION CONTROL MIX SOX
- TURBIDITY CURTAIN
- SHEET PILE
- COFFER DAM

CHANNEL PROTECTION (CP)
- STONE CHECK DAMS
- STRAW WATTLES
- CHANNEL MATTING
- CLASS D EROSION STONE
- CLASS C STONE

CLEAN WATER BYPASS (CWB)
- PUMP THROUGH PIPE
- DRAIN THROUGH PIPE OR CHANNEL



EROSION CONTROL PLANS

SCALE: 1" = 30'-0"

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE MAINTENANCE

TOWN WOODSTOCK BRIDGE NO. 203/079 STATE PROJECT 42618

LOCATION I-93 OVER EASTMAN BROOK

WETLAND KEY AND SUMMARY

BRIDGE SHEET 2 OF 3

REVISIONS AFTER PROPOSAL	BY	DATE

	BY	DATE		BY	DATE
DESIGNED			CHECKED		
DRAWN	JEH	5/30/19	CHECKED		
QUANTITIES			CHECKED		

ISSUE DATE		FISCAL YEAR	CREW	SHEET NO.	TOTAL SHEETS
REV. DATE		2019	XX	2	3

SHEET SCALE: AS NOTED

FILE NUMBER: WOODSTOCK 203/079

Woodstock 203/079

WETLAND IMPACT SUMMARY

WETLAND NUMBER	WETLAND CLASSIFICATION	LOCATION	AREA IMPACTS						LINEAR STREAM IMPACTS FOR MITIGATION		
			PERMANENT				TEMPORARY		PERMANENT		
			N.H.W.B. (NON WETLAND)		N.H.W.B. & A.C.O.E. (WETLAND)				BANK LEFT	BANK RIGHT	CHANNEL
			SF	LF	SF	LF	SF	LF	LF	LF	LF
1	R3UB12	A					15,401	367			
2	BANK	B					608	52			
2	BANK	C					593	69			
2	BANK	D					912	68			
2	BANK	E					842	74			
		TOTAL	0	0	0	0	18356	630	0	0	0

PERMANENT IMPACTS: 0 SF
TEMPORARY IMPACTS: 18356 SF

TOTAL IMPACTS: 18356 SF

SUBTOTALS		PERMANENT				TEMPORARY	
		N.H.W.B. (NON WETLAND)		N.H.W.B. & A.C.O.E. (WETLAND)			
CLASS	DESCRIPTION	SF	LF	SF	LF	SF	LF
R3UB12	RIVERINE	0	0	0	0	15401	367
BANK	BANK	0	0	0	0	2955	263

STATE OF NEW HAMPSHIRE
DEPARTMENT OF TRANSPORTATION * BUREAU OF BRIDGE MAINTENANCE

TOWN WOODSTOCK BRIDGE NO. 203/079 STATE PROJECT

LOCATION I-93 OVER EASTMAN BROOK

WETLAND IMPACTS

BRIDGE SHEET 3 OF 3

REVISIONS AFTER PROPOSAL	BY	DATE		BY	DATE
			DESIGNED		
			DRAWN	JEH	5/29/19
			QUANTITIES		
			ISSUE DATE		
			REV. DATE		

CHECKED
CHECKED
CHECKED

FILE NUMBER WOODSTOCK 203/079

SHEET SCALE	FISCAL YEAR	CREW	SHEET NO.	TOTAL SHEETS
AS NOTED	2019	10	3	3